**IT Applications Unit 3, AOS 1, Online Communities**

Complete the following, from pgs, 14-18: **Network communication standards**

**Networks are classified according to below and we will study the following:**

1. **Network Categories: LAN, WAN**
2. **Network Architecture, client-server; peer-to-peer; internet peer-to-peer; intranet**
3. **Network communication standards**
4. **Network hardware and software**
5. **Transmission media**
6. **Network security**

**Network communication standards**

1. Why are network standards required?

Network standards established to ensure hardware and software components will work on any network.

1. What is a protocol?

A protocol is a standard that defines how two computers or devices on a network transmit data.

1. What is the OSI?

Open Systems Interconnection, (OSI) is a standard for network communications that define a model for using protocols in seven layers.

**Ethernet**

1. Describe the nature of Ethernet.

A network standard that describes communication over a single cable shared by all devices on the network.

1. What are frames?

They are the format of witch the data is sent, first a destination address then a source address then the type of frame then the data and finally the parity check.

1. Identify the 4 components of all Ethernet frames.

Destination address, source address, data, parity check

1. Fig. 1-9 on p 17 lists the Ethernet type, cable type, maximum length and transfer rate for Ethernet transmissions. The College typically uses 100BaseTX, Cat 5 or10Gbase-T. What are their respective maximum lengths and transfer rates?

100baseTX-85m@100mbps, 100BaseTx is Cat5, 10GBase-t - 85m@10Gbps

**TCP/IP**

1. Describe the nature of TCP/IP.

It is the Protocol on which the internet is based, it uses smaller packets giving many options to a network

1. TCP/IP uses smaller packets than other protocols. Why is this advantage on the internet?

As there are many different pathways from the originating device to destination device and packets don’t all travel the same path.

**802.11 wireless standard**

1. What does this standard do?

It defines how two or more devices communicate through the use of radio waves as the transmission media.

1. What is a Wi-Fi network?

A Wi-Fi network allows computers up to 50m away from each other to connect without the use of a physical cable.

1. Different wireless standards transmit at different frequencies. What is the advantage of the newer 802.11n standard?

It can change its frequency to stop interference with other computers or devices that use radio; it is also faster reaching speeds of 600mbps.